

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/017996

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ A61K31/192, 31/216, 31/5375, 31/4453, 31/341, C07D295/08,
307/16, 317/54, C07C69/734, 59/68, G01N33/50, 33/15,
A61P3/04, 3/06, 3/08, 43/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ A61K31/192, 31/216, 31/5375, 31/4453, 31/341, C07D295/08,
307/16, 317/54, C07C69/734, 59/68, G01N33/50, 33/15,
A61P3/04, 3/06, 3/08, 43/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
REGISTRY (STN), CAPLUS (STN), EMBASE (STN), MEDLINE (STN)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, Y	WO 2004/041266 A1 (Takeda Chemical Industries, Ltd.), 21 May, 2004 (21.05.04), Claims 1 to 9, 35, 36 & JP 2005-015461 A2	1-18, 22-24
Y	WO 99/11255 A1 (Ono Pharmaceutical Co., Ltd.), 11 March, 1999 (11.03.99), Examples 26-156, 26-159; Claims 1, 4 & AU 9887502 A1	1-4, 6, 8, 9, 11, 13, 16-18, 22, 23
Y	WO 2002/067868 A2 (MILLENIUM PHARMACEUTICALS INC.), 06 September, 2002 (06.09.02), Claim 24; page 3, lines 5 to 29 & US 2002/0177151 A1 & AU 2002/258428 A1	1-4, 6-9, 11, 13, 16-18, 22, 23

☒ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
25 February, 2005 (25.02.05)

Date of mailing of the international search report
22 March, 2005 (22.03.05)

Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 2002-265457 A (Takeda Chemical Industries, Ltd.), 18 September, 2002 (18.09.02), Example 7; Claims 1, 16 to 22 & WO 2002/053547 A1 & EP 1357115 A1 & US 2004/058965 A1	1-4, 6, 7, 13, 22, 23
X Y	WO 2003/016254 A1 (Ono Pharmaceutical Co., Ltd.), 27 February, 2003 (27.02.03), Example 34(27); Claims 1, 17, 18; page 1, line 12 to page 2, line 14 & EP 1431267 A1 & BR 2002/011810 A	5, 24 5-9, 13, 24

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 19-21

because they relate to subject matter not required to be searched by this Authority, namely:

Claims 19 to 21 pertain to methods for treatment of the human body by therapy and thus relate to a subject matter which this International Searching Authority is not required, under the provisions of Article 17(2)(a)(i) of the PCT and Rule 39.1(iv) of the Regulations under the PCT, to search.

2. ☐ Claims Nos.:

because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:

because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

The matter common to the inventions of claims 1 and 22 and claims 5 and 24 is a medicine containing a "compound having a group capable of releasing an aromatic ring and a cation" (a). However, the medicine containing the compound (a) is publicly known as described in references (1), (3) and (4). Thus, this matter cannot be recognized as being a special technical feature over the prior art.

Further, with respect to stress regulation and "14273 receptor function regulation" (b), "stress regulation" of claim 5 includes a case via regulation (b) and a case not via regulation (b).

(continued to extra sheet)

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

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Continuation of Box No. III of continuation of first sheet (2)

In the case not via regulation (b), it does not appear that there is a close relationship between them.

Therefore, it does not appear that the inventions of claims 1 and 22 and claims 5 and 24 constitute a single technological concept.

With respect to claims 1 to 5 and 22 to 26

Claims 1 to 3 and 22 relate to a "14273 receptor" (B) function regulating agent containing a "compound having a group capable of releasing an aromatic ring and a cation" (A); claims 4 and 23 to a therapeutic agent for diabetes, etc. containing a receptor (B) function regulating agent containing compound (A); claims 5 and 24 to a stress regulating agent containing compound (A); and claims 25 and 26 to a method of screening ligand of receptor (B) with the use of compound (A).

With respect to compounds (A), in claim 3, they are limited to compounds of the general formula (I). However, a vast plurality of compounds are still included therein. Despite this, only some of the compounds, namely, compounds of the general formula (I) wherein the ring A is a benzene ring or condensed benzene ring, X is -C-O- (when the ring A is a benzene ring, C may constitute a part of the ring A), the ring B is a benzene ring, Y is -(CH₂)₂- and Y lies on para-position of X are ascertained in the description with respect to their action and pharmacological efficacy on receptor (B).

Therefore, in view of the way in which the claims are drafted, the subject matters of the inventions are unclear. Further, the description is not drafted clearly and fully to such an extent that persons skilled in the art to which the inventions pertain cannot carry out the inventions. Consequently, it cannot be stated that the inventions of these claims are fully supported by the description (PCT Article 5 and PCT Article 6).

Inasmuch as the description and claims of this application are drafted in a manner failing to satisfy prescribed requirements as mentioned above, with respect to claims 1 to 5 and 22 to 26, it is to be noted that prior art search has been carried out only on compounds specified in the description, namely, compounds of the general formula (I) wherein the ring A is a benzene ring or condensed benzene ring, X is -C-O- (C may constitute a part of the ring A), the ring B is a benzene ring or condensed benzene ring, Y is -(CH₂)₂- and Y lies on para-position of X.

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